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Management of uterine torsion in Murrah buffaloes: Clinical analysis

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Abstract

Thirteen murrah buffaloes of 3-6 years old were presenting in field condition of bharatpur region (Rajasthan) with a history of completion gestation period, anorexia, constipation, twitching of the tail, failure to deliver, restlessness. Torsion of the uterus was diagnosed and confirmed by per-rectal and per-vaginal examination. Out of which five cases (53.84%) were relieved by modified schaffer's method whereas, eight buffaloes needed caesarean section. Out of 13 cases, ten foetuses were dead whereas 3 live fetuses were delivered; dam's survival rate was 84.61 percent (11/13) after assisted delivery. The overall conception rate after the treatment of uterine torsion was 69.23% (9/13). Higher in treatment using modified schaffer's method than caesarean section.

Keywords: Murrah buffaloes, torsion of uterus, modified Schaffer's method, caesarean section

Introduction

The gravid horn twists around its longitudinal axis in uterine torsion (Rakuljic-Zelov, 2002) [3] which leads to narrowing of the birth canal causing dystocia. When left untreated, the most complicated causes of maternal dystocia in buffaloes result in the death of both the dam and the fetus (Murty *et al.*, 1999, Sharma *et al.*, 1995; Prasad *et al.*, 2000; Manju *et al.*, 1985; Mathijssen and Putker, 1989) [4, 5, 6 7, 8]. High incidence of uterine torsion has been reported in buffalo. Many studies revealed an incidence as low as 43.44% (Manju, 1984) [7] to 67% (Prasad *et al.*, 2000; Purohit *et al.*, 2012) [6, 9] and even up to 83% (Srinivas *et al.*, 2007) [10]. It has primarily been observed in Pakistan and Indian dairy buffaloes (Ahmed *et al.*, 1980) [11] and Egypt (El-Naggar, 1978) [12]. It has been frequently seen in pluriparous animals during the last month of pregnancy or near the time of parturition and occasionally identified throughout the last trimester of pregnancy (Roberts, 1986; Purohit *et al.*, 2011b) [13, 15]. The exact aetiology of a higher incidence of uterine torsion in buffalo continues to be poorly understood. A variety of contributory factors have been suggested, including the anatomical structure, slipping, the manner in which the animal rises and sit down and the powerful movements of the foetus during the first stage of labor, over weight of foetus, lack of fetal fluid (Roberts, 1986; Noakes *et al.*, 2009) [13, 19]. The instability of the uterus during a single horn pregnancy seems to be the most plausible explanation for the rotation of a pregnant uterus on its axis and inordinate fetal or dam movements (Purohit *et al.*, 2011a) [14]. When the abnormal symptoms occur at the moment of parturition, diagnosis is going to be simple. A typical history of uterine torsion will show that the animal was ready to give birth, as evidenced by the pelvic ligaments relaxing and the milk being let down but enough time has passed and the fetus has not yet appear from the vulvar lips or ruptured the fetal water bags. (Wright 1958, Prabhakar *et al.* 1995a) [17, 16]. However, dam is suffering from tachycardia, tachypnoea, restlessness (dam gets up and down more frequently), and stretching of the broad ligament results severe abdominal pain and kicking of the abdomen with her hind legs (Wright 1958, Sloss and Dufty 1980, Noakes *et al.* 2001) [17, 18, 19]. Severe straining of the abdomen results from the stimulation of the stretch receptors in the vagina by an increase in torsion degree (>270°) (Frazer *et al.* 1996) [20]. Approximately 66-96% of torsions are post-cervical, meaning that the anterior vagina is rotated and the twist of the twisted uterus reaches caudally to the cervix.

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This type of torsion is easily identified through vaginal examination (Frazer *et al.* 1996, Noakes *et al.* 2001, Aubry *et al.* 2008) [20, 19, 21]. In Pre-cervical torsion, the uterus's twist to lie on its body rather than extend beyond the cervix, preventing folds from forming on the vaginal wall and allowing the cervix to be examined vaginally (Noakes *et al.* 2001) [19]. Rectal examination is required to accurately determine the direction of torsion before attempting treatment, as detorsion in the incorrect direction will worsen the situation (Noakes *et al.* 2001) [19]. The course of broad ligaments should be observed during the rectal examination. The broad ligaments on the sides of the uterus can be palpated in a normal pregnant animal, but in pre-cervical (and post-cervical) torsion, the orientation of the broad ligaments is changed, and these can feel crossed and twisted. (Noakes *et al.* 2001) [19]. The method chosen for detorsion of uterus in bovines in cows depends on the veterinarian's experience, the stage of pregnancy, the degree of torsion, the health of the dam, uterus, and fetus. The most often utilized methods include the caesarean section, rolling of the dam, and rotation of the fetus per vagina. This study reveals that uterine torsion in buffaloes can be successfully managed with a modified version of Schaffer's approach.

Materials and Methods

Thirteen murrah buffaloes of 3-6 years old were presenting in field condition of bharatpur region with a history of completion of gestation period, straining, restlessness, anorexia, stretching of limbs and colicky symptoms for more than 24 hours. Torsion of the uterus was diagnosed and confirmed by per-rectal and per-vaginal examination. Clinically 76.92% (10/13) buffaloes were apparently normal. Other buffaloes were dull and depressed. Initially attending of cases, buffaloes were given supportive therapy may include fluid therapy, antibiotics, analgesics and corticosteroids depending upon the severity of the condition. Nature, type and direction of uterine torsion were confirmed on the basis of per-rectal and per-vaginal examinations. The Modified Schaffer's approach was used to detorsion all of the buffaloes. After successful detorsion, the buffaloes were given 2 ml lulatoryse (Pragma, Intas pharmaceuticals) IM for the expulsion of foetus. Whereas, Cesarean section was opted for the buffaloes where attempts for detorsion using modified Schaffer's method were unsuccessful. Caesarean was performed at lateral and parallel to milk vein on lower left flank. Post-operatively, all the buffaloes were medicated with fluids, ceftiofur sodium (Xyofur @ 1.1 mg/ kg, Intas Pharmaceutical), calcium-magnesium borogluconate (Mifex, 450 ml, IV, Vetcare), slow intravenously, tonophosphan (10ml, MSD vet) and meloxicam (Melonex @ 5 mg/kg, Intas Pharmaceutical) with chlorpheniramine maleate (Anistamin, 10 ml, Intas Pharmaceutical), intramuscularly for five consecutive days as per the severity of case.

Results and Discussion

Uterine torsion was observed 76.92% (10/13) more in pluriparous buffaloes in last trimester with severity of signs and symptoms. The uterine torsion's degree varied from 180-360 degree comprising 30.76% (4) of 180 to 360 degree, 53.85% (7) of less than 180 degree rotation and 15.38% (2) of 270 degree. Right side pre-cervical uterine torsion was diagnosed in 38.57% (5) buffaloes. In the present study i.e. 7 out of 13 (71.43%) cases were of post-cervical nature. all the buffaloes were subjected to Modified Schaffer's method for detorsion. Successful detorsion could be occurred in those

(5/13) which were detorted within 24 hours of onset of clinical signs. After successful detorsion, expulsion of dark brownish viscous discharge could be noticed but the cervix remained partially dilated. Hence, these buffaloes were given luteolytic prostaglandins intramuscularly for fetal expulsion to occur within 24 hour post treatment. Since nine out of thirteen cases (9/13) could not be corrected by modified schaffer's method, therefore, they were subjected to caesarian section. All the dams survived except one, which had a history of symptoms of torsion since last five days and delivered an emphysematous fetus, died after four days of cesarean section. Overall dam survival rate as well as conception rate was 100 percent using Modified Schaffer's method whereas, only two buffalo conceived in surgically treated.

According Prasad *et al.* (2000) [6] and Brar *et al.* (2008) [22], The majority of buffalo cases of maternal dystocia are caused by uterine torsion. More occurrences on right side observed in the present study due to presence of a weaker muscle on right broad ligament in buffaloes and presence of rumen on left side (Brar *et al.*, 2008) [22]. The higher incidence of pre-cervical as compared to post-cervical uterine torsion reported in the present study confirmed with the findings of Purohit *et al.* (2013) [2]. As observed in our study, Murty *et al.* (1999) [4] also observed the higher incidences of uterine torsion in pluriparous buffaloes (88.3%) compared to primiparous (16.7%) buffaloes. Successful detorsion needed at least 2 to 3 rotations using the Modified Schaffer's method where the cases were not of prolonged nature. In present study, 5 out of 13 cases (38.46%) which was attended within 24 hours could be successfully detorted using the modified schaffer's method. Whereas, the 9/13 cases (69.23%) presented after more than 24 hours required cesarean section.

In the present study, Most of the delivered foetuses (10/13) were dead. A 90-180 degree torsion may occur during last few months of pregnancy and becomes observed at the time of parturition whereas, cases of 180-360 degree uterine torsion are severe and cause obstruction of the blood supply to the uterus which result finally death of the fetus (Noakes *et al.*, 2009) [19]. In long standing cases, chances of uterine adhesion with surrounding abdominal structure results into failure of detorsion wherein, in-situ incision of the uterus during cesarean operation leads to escape of uterine content in to abdominal cavity leading to severe peritonitis and finally death of dam (Purohit *et al.*, 2013) [2]. One buffalo died after five days post-operatively as it was a long term case of dystocia and there was adhesion of uterus with omentum. The future fertility of buffaloes affected with uterine torsion is of major concern, which relies on duration of illness, extent of uterine adhesion and treatment opted to cure the animal. Follow-up study revealed that buffaloes treated by rolling (5/5) conceived after 3-4 services whereas, only three buffalo conceived 3/9 (33.33%) after third insemination in caesarean group. Singh and Dhaliwal (1998) [16] have also reported lower (27.70%) fertility rate in cesarean operated buffaloes as observed in our study. Thus, it can be concluded that treatment of uterine torsion by Modified Schaffer's method within 24 hours of clinical symptoms results in good prognosis in respect to dam survival and future fertility.

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